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ED 033 088 24 SP 003 216

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Special Research Training Program for Public School Personnel.
West Virginia Univ., Morgantown.
Spons Agency-Office of Education (DHEW), Washington, D.C. Bureau of Research.
Bureau No-BR-6-2184
Pub Date May 67
Grant-OEG-2-6-062184-1282
Note-16p.
EDRS Price MF-$0.25 HC-$0.90
Descriptors-*Educational Research, *Institutes (Training Programs), Program Design, School Personnel

Specific evaluative research training was provided for 47 public school personnel based on school-systemwide problems identified by trainees. Objectives were to provide research understanding, transfer of that understanding to an ongoing project, and development of ability to communicate research results. Individual and group instruction was given in research methods and evaluation, project planning and organization, and proposal writing. Two separate 4-week programs were conducted June 13 through August 5, 1966. To test the hypothesis that the amount of structure given to the program would influence the amount of learning and attitudes toward research, the first group was given a structured project-research-fundamentals-oriented program and the second an unstructured project-oriented program. A follow-up conference was held in January, 1967. When semantic differential measures of both groups were combined, favorable attitudes toward all research concept areas were indicated; achievement posttests showed acceptable progress in learning research methods and facts for both groups. The unstructured learning organization seemed superior (though not significantly so), influencing favorable attitudes toward more research concepts, better achievement performance, and greater satisfaction with workshop organization, visiting lecturers, and facilities. (Publicity materials are included.) (Author/JS)

ED033088

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SPECIAL RESEARCH TRAINING PROGRAM FOR PUBLIC SCHOOL PERSONNEL

Grant No. G2-6-062184 1282

Dr. Arthur N. Hofstetter

June 13, 1966 to January 15, 1967

The training program reported herein was conducted pursuant to a grant from the Office of Education, U.S. Department of Health, Education, and Welfare. Grantees undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment of the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

West Virginia University

Morgantown, West Virginia

SP003216

FINAL REPORT ON THE EDUCATIONAL RESEARCH TRAINING PROGRAM CONDUCTED AT WEST VIRGINIA UNIVERSITY THE SUMMER OF 1966 AND IN JANUARY 1967

Orientation of Program

The Special Training Project conducted at West Virginia University was organized as an educational program in research providing specific research training based on school-system-wide projects emanating from public school problems. The program was based on the premise that selected participants would need direct help with projects they were already conducting and/or in projects they would be planning, conducting and evaluating. Individual aid and group instruction was given in methods of research, evaluation in research, project planning, project organization and proposal writing oriented to the needs of individuals and interests groups.

Two separate research training programs of four weeks duration each were conducted June 13 through July 8, 1966 and July 11 through August 5, 1966. Each four week session followed essentially the same schedule, differing only in the degree to which procedures and methods were structured. Trainees were limited to 32 selected public school personnel for each session; however, only 47 of the 64 admitted, presented themselves for enrollment and completed the program.

Separate follow-up conferences of one-week duration each were conducted in January, 1967, for the participants of the summer training session of 1966. These follow-up conferences were conducted during consecutive weeks, January 16 through January 27, 1967. Of the 47 persons who participated in the summer portion of the program, 32 were present for the follow-up conferences in January, 1967. The trainee group consisted of public school personnel who were administering, conducting, supervising and/or evaluating Federal projects utilizing funds emanating from the Office of Economic Opportunity, Elementary and Secondary Education Act of 1965, National Defense Education Act, and local school boards. Public school personnel consisted of school superintendents, assistant school superintendents, supervisors of instruction, directors of Federal programs (public school) and teachers who were preparing to work with Federal projects.

Objectives of the program. The Special Training Program was designed to utilize the existing problems of school systems in the development of competency in the practical aspects of evaluative research and proposal definition; therefore, the specific objectives relevant to the special problems of each trainee were to:

a. provide a general understanding of educational research and program evaluation procedures;

b. provide specific understanding of methods and techniques useful in evaluative research;

c. insure a direct and optimum transfer to the individual problem or project of each trainee;

d. develop ability of the trainee in collection and analysis of data from all available resources in program evaluation; and,

e. improve the ability of the trainee to communicate the results of his research to others.

Description of the program. The objectives of the Research Training Program were set up, primarily, to provide research understanding, transfer of these understandings to an on-going project and development of the ability of the trainee to impart the results of his research to others. The research training sessions were organized to insure, insofar as possible, that participants could be helped in such a manner that favorable research attitudes would be developed in addition to attainment of the other objectives. Since the workshop consisted of two separate training sessions in the summer and two separate follow-up sessions in the winter term, a reasonable opportunity was presented for evaluating through adjusting methods of organizing a learning situation.

There were an infinite number of refinements to be considered in structuring a research training program to influence attitudes even though objectives of the program remained unchanged. It was finally decided that attitudes, and learning would be influenced by the amount of research fundamentals lectures scheduled and presented, unsolicited by trainees. The first four week session was given a project-research fundamentals oriented content and the second four week session was given a less structured project-oriented approach.

Project-research fundamentals oriented. The first day of the workshop was concerned with orientation of research trainees to the purposes of the workshop and the available facilities. Orientation was followed by problem exploration for the length of time which seemed necessary to enable participants to define their projects. The research needs of trainees, in terms of methods, design, evaluation, and other areas, were utilized in determining the direction which lectures on fundamentals of research would take. Large group lectures and small group clarification sessions were conducted on fundamental research knowledge which seemed essential to development of projects, ideas, evaluation and/or proposals of trainees. Lectures were prepared and delivered by members of the research training program staff and consultants who had been tentatively scheduled over a broad range of anticipated subject areas. Total group, small group, and individual conferences were conducted in a continuing exploration of trainee projects, utilizing group interaction for the purposes of giving mutual aid, obtaining understanding of other projects than ones own, and to enable the staff to determine special needs of individuals. Special consultant services were provided groups or individuals as dictated by their needs. Lectures in the fundamental areas of research methods, design, statistical analysis, hypothesis development, evaluation, and other areas were scheduled and delivered throughout the four week session in accordance with needs of trainees determined during the first week. Projects, proposals, or other written materials were critized individually or in small group sessions for the purpose of aiding trainees to improve. Written materials were duplicated to enable the workshop director to retain copies for evaluation, to give copies to each of the workshop members and to enable trainees to compare their work with other trainee materials.

Project-oriented approach. This type of workshop organization was utilized during the second session, beginning July 11, 1967. The program was organized on the premise that student projects were of greatest importance, utilizing a maximum of independent study with guidance and consultant services.

The first two days were utilized in orientation, familiarization with facilities and materials, exploration of trainee projects and attaining an understanding of the independent study concepts which trainees would use. Lectures were reduced to a bare minimum, they were scheduled and delivered only when there was consensus of trainees that this was an area of group interest,

in response to a group expressed need. Interaction and exchange of ideas was obtained through small group discussion organized on the basis of areas of interest. Special consultants worked with small interest groups, consulted with individuals, and individuals were encouraged to seek out consultants as needs developed. The research training project staff was available, at all times, for consultation on the problem or in directing trainees to consultants who would give them the kind of help wanted. Research methods, techniques, design, and other research content areas were introduced and explored incidentally, as they were necessary to the projects of individuals composing interest groups. Such writing as was done, e.g., proposals, analyses, literature, and evaluations were copied so that a duplicate could be obtained for evaluation and for sharing with group members.

Common experiences. Both of the groups, during the two four week sessions, were taken on field trips to the library for one half day and to the computer center for one half day. Both groups were offered further training in use of the computer should this seem desirable to them. Two members of the project oriented group sought further knowledge in using the computer center. This training was given by the program staff.

Evaluation of the Program

The Special Training Program was designed to provide practical experience in proposal definition, proposal writing and evaluative research utilizing existing and potential projects of trainees as the media. Evaluation of the extent to which this overall purpose was achieved was done through comparison of the work of the groups in each of the two week sessions.

The make-up of the two groups has already been described. Group members were placed, in accordance with their requests, to begin the course on June 13 or July 11; there was no discoverable relationship between their selection of the group and their knowledge of research; the same staff worked with each group. Since both groups were project oriented, they differed in their instruction only as one group was rigidly structured in receiving specific lectures while the other was relatively unstructured. These groups will be identified by calling one the "structured group" and the other the "unstructured group".

Both the structured and the unstructured groups had, relatively, the same amount of education, indicating to the investigator that only five of the unstructured and four of the structured group had less than the Master's Degree. All had the Bachelor's Degree or better; however, there were no Doctorates possessed by any of the group members.

Formal research knowledge. Identical forms of the same achievement tests, consisting of 120 objective items were administered to each of the groups at the close of the four week session. Those achievement tests had been previously used on formally scheduled classes in the Division of Education's "Fundamentals of Educational Research," an upper level graduate course. Performance of regular classes, numbering from 35 to 110 persons, established an average of 73 per cent correct answers with a standard deviation of 6, over the previous two years.

The structured group attained a mean of 64 per cent correct answers with a standard deviation of 9 as compared to a mean of 66 per cent and a standard deviation of 4 attained by the unstructured group. Significance of the difference between the means was determined through the use of the t-test. A value of .94 indicated no significant difference in the performance of the two groups; however, both groups were significantly below the norm attained by formal classes, beyond the .01 confidence level.

It seems fitting to explain the deviations of workshop groups from the norm by stating that they were seeking more practical and immediate goals and that 66 per cent correct answers as compared to a norm of 73 per cent correct answers might indicate that the workshop groups did attain a general understanding of educational research, to include methods, techniques, and program evaluation procedures which would be useful to them.

Attitudes toward research concepts and areas. The semantic differential was used in measuring growth in attitude toward research concepts and areas of research. Attitudes were measured at the beginning and end of each of the four week sessions. The research concepts measured, in terms of the meaning they held for the student, were: evaluative research survey of literature, research theory and hypothesis, statistical analysis, questionnaire, problem proposals, and random sample.

The sign-test was used in determining significance of change. There was gain in understanding and attitude toward each of the concepts; however, the structured group made significant gains at the .05 confidence level in the concept areas: research theory and hypothesis, questionnaire, problem proposals, and random sample. The unstructured group made significant gains at the .05 confidence level in understanding and in their attitudes toward all of the seven research concept areas. When sign-tests were used on the combined groups it was again found that significant gains in all of the research concept areas were attained.

Results of the semantic differential* would indicate that attitudes of the unstructured group and understanding of meaning were, on the whole, better than those obtained with the structured group and that it may be possible that unstructured methods engender better attitudes toward research concepts. However, results of the sign-tests for the combined groups indicates a significant progress in understanding of research concepts, demonstrating further accomplishment of the objectives as stated.

Evaluation of the learning environment. The structured and unstructured groups were asked to evaluate various aspects of the learning environment set up on a five point Lickert scale. The structured group rated overall workshop organization at 4.01 on the 5 point scale. This same group rated visiting lecturers at 3.98 on the 5 point scale; the tele-lecture from Washington, D. C. was rated at 3.71; and the tele-lecture from Charleston, West Virginia was rated 4.29. The physical plant was rated by the first or structured group in 3 distinct areas: library, individual work space, and lecture facilities. Library was rated 4.10, individual work space at 3.81, and lecture facilities at 3.70, out of a possible 5 points. Overall rating of the workshop by the structured group on the 5 point Lickert scale, was 3.92.

Ratings by the unstructured group placed workshop organization at 4.16 out of 5. Visiting lecturers were rated at 4.37. The only tele-lecture requested by the unstructured group was one from Charleston, West Virginia; this was rated at 3.76 out of

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*C. E. Osgood, G. J. Suci, and P. H. Tannerbaum, The Measurement of Meaning (Urbana, Illinois: University of Illinois Press, Urbana, 1957), pp. 342-343.

a possible 5. Within the category of the physical plant, the unstructured group rated the library 4.23, individual workspace at 4.0 and lecture facilities at 4.10 each out of a possible 5 points on the Lickert scale.

It can be clearly seen, upon comparison of the unstructured and structured groups, that the unstructured group rated the workshop higher in every category except that of tele-lecture. This would seem to indicate that students gained greater satisfaction and viewed workshop characteristics at a higher level when the learning situation was unstructured as compared to a structured learning situation. The overall rating of the workshop staff was considered to be a part of the workshop organization; however, a combined rating of the workshop staff of the structured and unstructured group was 6.4 on a 7 point Lickert scale. This special rating was not used to compare attitudes of the groups toward the staff since it was felt that these would best be compared by the overall workshop rating.

Evaluation made at follow-up conferences. Two follow-up conferences were conducted in the two consecutive weeks beginning January 16 and ending January 27, 1967. The groups attending the follow-up conferences were a mixture of the structured and unstructured summer workshops; therefore, it was not possible to get an unbiased evaluation with regard to the possible attitudes engendered by structured and unstructured learning situations. Evaluations were obtained and compiled for a combined presentation. At the end of each week an evaluation form was presented to the group in attendance. Trainees were asked the question: "In view of the work accomplished on your project to date, of how much benefit was attendance at the summer workshop?" The response of the combined follow-up session, 29 persons, rated attendance at the summer workshop at 8.2 on a 10 point Lickert scale, thus, placing a high value on attendance at the summer workshop. From 20 to 28 of those in attendance indicated personal assistance was received in one or more of the following: through consultant services, stimulation by group situation, suggestions made or experiences related by fellow participants, ideas exchanged, lectures presented, and group discussion. Of the foregoing, they indicated "consultant services" and "lectures" were of most assistance, tied, for first choice. "Ideas exchanged with one another" was rated as the third choice.

Prior to the follow-up conference, participants had been asked to indicate the consultant services which they might require. They were asked, at the follow-up conference, if they received the help they needed through the requested consultant services; 28 of the 29 replies were in the affirmative. The degree to which these services were helpful was indicated by a rating of 7.45 on a ten point Lickert scale, showing a high degree of helpfulness.

An alternative means of obtaining consultant help was proposed as "on the spot" visits to the local area in preference to a full week of conferences away from the local area. The respondents indicated that they preferred follow-up conferences such as were conducted, with 22 of 29 making this choice.

Trainee projects. Special measures were utilized to insure accomplishment of the objectives: direct transfer of research knowledge to individual problems, develop the ability of the trainee in collection and analysis of data in program evaluation, and improve the ability of the trainee to communicate the results of his research to others. Each trainee was persuaded to develop a project proposal and/or project evaluation and/or a complete project report. There was ample opportunity for consultants to meet with individuals and with small groups in assuring the accomplishment of the previously stated objectives. As trainees wrote proposals and/or projects, these were carefully criticized by small groups and in individual consultation. As many as five or six revisions were made prior to acceptance as a finished written communication.

Summary and recommendation. Achievement tests gave indication that there was acceptable progress in learning of research methods and facts. Favorable attitudes toward research concept were engendered in the combined group in all research concept areas tested. Evaluations made by trainees indicated a high degree of satisfaction with workshop organization, visiting lecturers, and the physical plant, including library, individual workspace and lecture facilities. Trainee response to a questionnaire on follow-up conferences indicated a high degree of satisfaction here as well as confirmation of their satisfaction with the summer conference.

Overall assessment of the research training program would indicate that it was highly successful, with significant findings in most areas. An unstructured learning organization may be

recommended for future workshops. This is supported by a greater number of changed attitudes in the unstructured group, as indicated by the semantic differential; better achievement performance by the unstructured group, although not significantly so; and greater satisfaction of the unstructured group with workshop organization, visiting lecturers and physical facilities.

Recommendations to USOE. Certain aspects of administration of the educational research training program might be amended in order to alleviate some dissatisfaction of participants.

1. All participants should be paid a flat sum regardless of the number of dependents, and the whereabouts of those dependents.

2. Participants who are within commuting distance of the workshop center should be conceded a travel allowance the equivalent of a 300 mile round trip or some such standard criterion.

Program Reports

Publicity. Announcement of the research training program was made to the convention of West Virginia county school superintendents in Morgantown, West Virginia, April 28, 1966 and in six regional sessions throughout West Virginia, May, 1966. This was followed by letters, brochures, and application forms mailed to school superintendents for distribution. One of the requirements in the proposal was that all participants be recommended by their school superintendents. Letters, brochures and application forms were also sent.

Nearby county school systems in the western panhandle of Maryland, southwestern Pennsylvania, and the Ohio school systems bordering on the Ohio River, from West Virginia's northern panhandle to Parkersburg, were sent information and applications through the mails.

As applications were received the applicants were notified of acceptance or non-acceptance. Those who were accepted, were given complete information on how they might participate for credit or without credit. They were given complete information on entering West Virginia University, reserving space in residence halls and other general information as might have been useful. School superintendents were notified as those persons whom they

had recommended were accepted or rejected. Follow-up letters and brochures, re-informing school superintendents, were sent to those who had not replied within a reasonable time.

Application summary.

Approximate number of inquiries from prospective trainees (letter or conversation)	80
Number of completed applications received	65
Number of first rank applications (Applicants who are well-qualified whether or not they were offered admission)	62
How many applicants were offered admission	60

Trainee summary.

Number of trainees initially accepted in program	54
Number of trainees enrolled at the beginning of program	48
Number of trainees who completed program	47
Categorization of trainees	
Number of trainees who principally are elementary or secondary public school teachers	6
Number of trainees who are principally local public school administrators or supervisors	41
Number of trainees from State education groups	0
Number of trainees from colleges or universities, junior colleges, research bureaus, etc.	0

Program director's attendance.

What was the number of instructional days for the program	20
What was the percent of days the director was present	100%

Financial summary.

	Budgeted	Expended or Committed
Trainee Support		
Stipends	$22,500.00	$17,850.00
Dependency allowance	9,000.00	5,770.00
Travel	4,000.00	1,499.52
Direct Costs		
Personnel	17,059.00	14,504.10
Supplies	150.00	150.00
Equipment		
Travel		
Other	2,131.00	1,766.85
Indirect Costs	4,387.00	4,387.00
TOTAL	$59,227.00	$45,927.47

APPENDIX A

Announcements, forms and instructions used
in preparation for the Research Training Program
for the summer session of 1966.

Date of issuance: April 5, 1966
Number sent: 110
Addressee groups: School Superintendents
State Department of Education

Dear _____:

The College of Human Resources and Education, has been provisionally awarded a Federal grant for the purpose of conducting a four-week research training program during the summer of 1966. There will be a follow-up conference of one week scheduled for January, 1967. Two separate workshop sessions are scheduled to afford a choice of the time when personnel would be away.

The purpose of the workshop is to help your school system with research design, project evaluation, problems in writing, and such other problems as may be research and project connected. We request that such work as may be relevant to the foregoing, be brought to the workshop by your appointed representative, where he can get the kind of help he wants. The research training program is being developed in cooperation with the State Department of Education in meeting the needs of evolving Federal programs.

Complete details of the workshop are on the enclosed announcement leaflet. Enclosed, in addition, are application forms which should be completed and returned to us by the students whom you recommend. Please send your recommendations in a separate letter. Since the space is limited, we request that recommendations be ranked in order of priority.. You will certainly get your first choice, and if space allows, your second and/or third.

We request that applications be returned to us prior to May 1, 1966 so that we can make definite notification to participants prior to May 10. We are looking forward to being of service to you and your school system in a workshop designed to meet your needs.

Sincerely,

Arthur N. Hofstetter, Coordinator
Educational Research & Field Services

Date of issuance: April 5, 1966
Number sent: 110
Addressee groups: School Superintendents
State Department of Education

SPECIAL RESEARCH TRAINING PROGRAM
West Virginia University
Educational Research and Field Services
Information Sheet

What it does: The Special Research Training Program provides specific training based on actual school-system-wide problems emanating from public school projects, Federal programs, or other projects requiring special research capabilities.

How: This objective will be reached by centering the training program on the practical problems the trainee has found or is preparing for in his school system. Therefore, formal content of research course work will be built on the practical problems which the trainee brings with him from his school system.

We will seek to: (1) Provide understandings of educational research; (2) develop methods and techniques of evaluative research; (3) insure transfer to practical school problems; (4) develop ability for collection and analysis of data; and (5) improve ability of the trainee to communicate results of research to others. A multi-disciplinary approach to research training in evaluation will be developed in four weeks of concentrated problem-centered workshop. We propose to provide such consultant services as may be needed; utilize tele-lecture to bring expert help direct from Washington to the classroom; provide an instructor-student ratio of one to eight.

When: There will be two separate research training workshops of four weeks duration each, limited to thirty-two students, in each workshop. Starting and closing dates of each workshop follow:

First Session: Begins June 13 and closes July 8.
Second Session: Begins July 11 and closes August 5.
Follow-up Session: One week, January, 1967
(exact date to be set)

The workshops will be in session from 9:00 a.m. until 4:00 p.m. Monday through Friday of each week. Special seminars will be conducted, outside of those days and hours, at the option of the students.

Who is eligible to participate: (1) Only those persons who have sufficient knowledge of projects underway, in development, or in the thinking stage in a given school system, so that these can be presented to the workshop and become the basis of the student's work during the four-week special research training program. (2) Those persons recommended by their county superintendent of schools. (3) The total of 64 spaces allows allotment of one workshop space per county. Extra spaces will be allotted on the basis of date applications are received and qualifications of applicants.

Credit: Credit may be obtained, at the option of the workshop participant, in:

Education 270, Workshop in Educational Research, 3 sem. hours

Stipends and expenses: Stipend: $75 per week, plus $15 per week per dependent. There is a travel of 8¢ per mile for one round trip. All of the foregoing is paid from grant funds.

Where: The major work of the Research Training Program will be conducted on the Downtown Campus in Oglebay Hall Annex, Educational Research and Field Services. (Information as to registration will be sent at a later date.)